

WELCOME TO DOE'S *RCRA ORIENTATION FOR FACILITY MANAGERS* COURSEWARE

- Background** This module comprises one component of courseware materials that were developed by DOE's Office of Environmental Policy and Assistance, RCRA/CERCLA Division, EH-413, in response to a request from the Deputy Assistant Secretary for Nuclear and Facility Safety (EH-3). The original course was titled *RCRA Orientation for Nuclear and Facility Safety* and was presented on March 5, 1997, at Germantown, MD. Presentation materials were derived from the more formal three-day course titled DOE's *RCRA Orientation Workshop*, which was developed by EH-413 under a joint funding venture that included the Savannah River Site and the Albuquerque Operations Office.
- Courseware Content** Although derived from the three-day workshop, DOE's *RCRA Orientation for Nuclear and Facility Safety* (now titled *RCRA Orientation for Facility Managers*) was expanded by developing two new modules to meet the needs of Nuclear Safety Managers. One of the new modules (*Corrective Action*) compares and contrasts RCRA closure and corrective action with CERCLA remedial action by using Oak Ridge Reservation as an example of a radioactively contaminated site closed under RCRA, but undergoing remediation under CERCLA. The other module (*Emerging Issues*) offered a snapshot of the emerging regulations that were expected to impact the Department most dramatically. The remaining courseware modules include:
- Introduction to RCRA and Liability Overview,
 - Overview of Solid Waste Determination,
 - Overview of Hazardous Waste Determination, and
 - Permitting.
- PDF "Handout" files only, which contain the aforementioned modules, are designed to serve as stand-alone resources and are equipped with: (1) A list of module contents, (2) Module-specific enabling objectives; (3) Self-assessment questions and answers; (4) A module-specific regulatory citation/key word index; and (5) A module-specific cross-link table that identifies hypertext links to additional Internet resources for hazardous waste-related information.
- Using the Courseware Materials** Within the PDF Handout modules, users are encouraged to examine the module's Regulatory-Statutory Citation/Key Word Index to identify the availability and location of topics of interest. In contrast, users can simply "dig-in" and sequentially examine the courseware's content. For less extensive reviews or to download additional course presentation materials as needed, users can return to the [RCRA Orientation for Facility Managers Home Page](#) to access electronic files containing the remaining PDF Handout and/or Vugraph files.

To assist users in accessing additional Internet resources, where possible, module-specific hypertext links have been inserted into select points within each of the six PDF Handout courseware modules. Hypertext links appear in both the slide and notes portions as either *blue italicized text* (the first time a link to a particular resource is offered in a given module) or *green italicized text* (each subsequent link to that same resource) and have been assigned to terms and phases for which additional Internet resources such as other EH-413 guidance documents, other Internet Websites, etc. are available. Upon identifying a highlighted term or phase of interest, users generally can access the additional Internet resources by clicking on the highlighted text, which will then hypertext link to another Internet resource. Additional information for obtaining those resources that are not Internet-accessible as well as the objectives, content and organization, use, list of acronyms, Internet resources, and master index is presented in the [*Front-End Materials section*](#) (first section).

**Feedback
And
Contacts**

If you have difficulty in downloading or reviewing modules comprising DOE's *RCRA Orientation for Facility Managers*, [contact our Webmaster](#) and please [provide us with feedback](#). If you are interested in attending the three-day *RCRA Orientation Workshop*, please contact the [National Environmental Training Office](#). Additional questions concerning this courseware or the information presented therein may be directed to Atam Sikri of my staff by:

- Calling at (202) 586-1879,
- Faxing messages to (202) 586-0955, or
- Communicating electronically, via Internet, to atam.sikri@eh.doe.gov.





... Permitting Also Triggers
Hazardous Waste
Corrective Action
Requirements



Overview

- Introduce RCRA's cleanup programs
- Compare RCRA's process to that of CERCLA
- Explore an Oak Ridge example of how these authorities apply

RCRA Requires Corrective Action For Releases From

SWMUs

Regulated as
HWMUs

“Regulated”

SWMUs

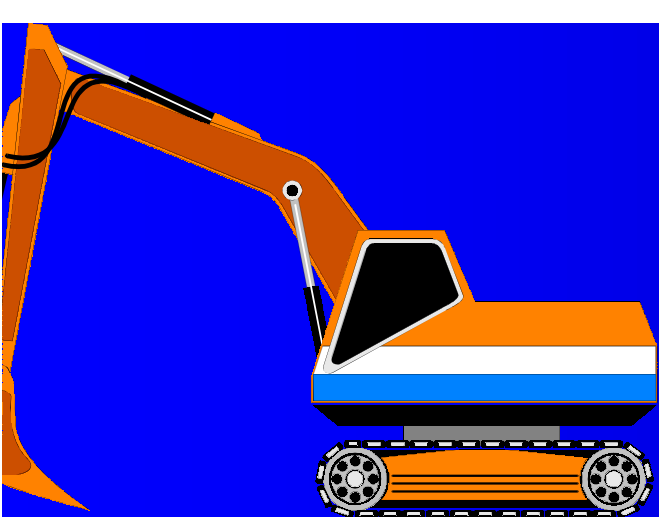
Not Regulated
as HWMUs

“Unregulated”

RCRA *Corrective Action* Applies To Regulated SWMU, Which Include:

- Permitted HWMUs that release waste constituents to the environment (e.g., landfills and surface impoundments) and
- Unpermitted HWMUs that are taken out of service rather than being permitted (closure, post-closure care).





... And Unregulated SWMUs

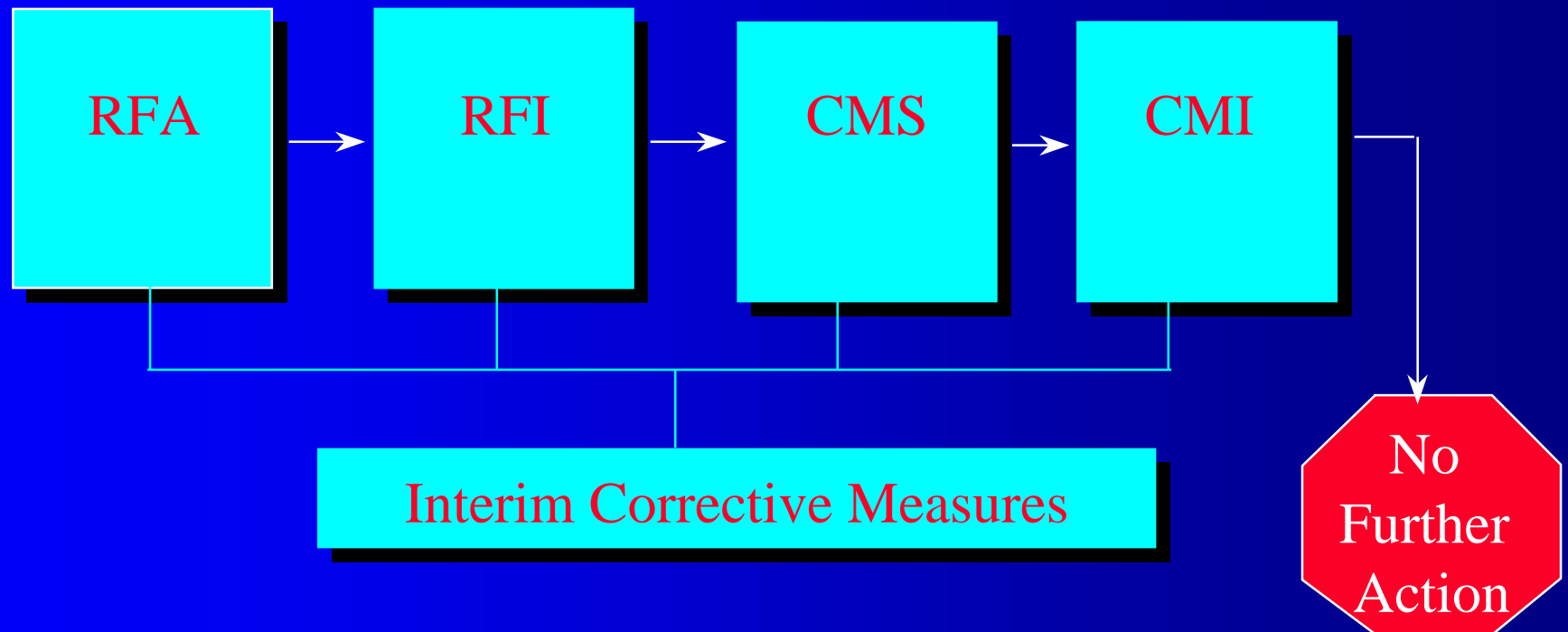
- 3004(u) gives EPA the authority to require corrective action for past releases
 - applies to all facilities seeking a permit
 - RCRA permits contain compliance schedules for corrective action
- 3004(v) also gives authority to require corrective action beyond facility boundary
- 3008(h) provides for corrective action at interim-status facilities



Unregulated SWMUs (cont'd)

- Corrective action requirements are imposed through the *permit* or, for interim-status facilities, an enforcement order.
- Permits must contain schedules of compliance to address releases.
- Corrective action efforts around the country may encompass thousands of TSDFs.

The Major Components of Corrective Action



Corrective Action Components Similar to CERCLA

RCRA

- RCRA Facility Assessment
- RCRA Facility Investigation
- Corrective Measures Study
- Permit Modification
- Corrective Measures Implementation

CERCLA

- ***Preliminary Assessment/
Site Investigation***
- Remedial Investigation
- Feasibility Study
- Record of Decision
- Remedial Design/Remedial Implementation

Where Does All This Lead?

- RCRA imposes requirements for cleanup that could apply to CERCLA wastes.
- RCRA and CERCLA do not replace each other.
- RCRA, CERCLA, and closure can all apply.
- Therefore, RCRA corrective action can contribute to uncertainty over which agency is in the lead and which requirements must be met.



An Oak Ridge Example,
Waste Area Grouping (WAG) 6,
Or How Corrective Action Poses Conflicts for
Radioactive Mixed Waste (RMW) Cleanups





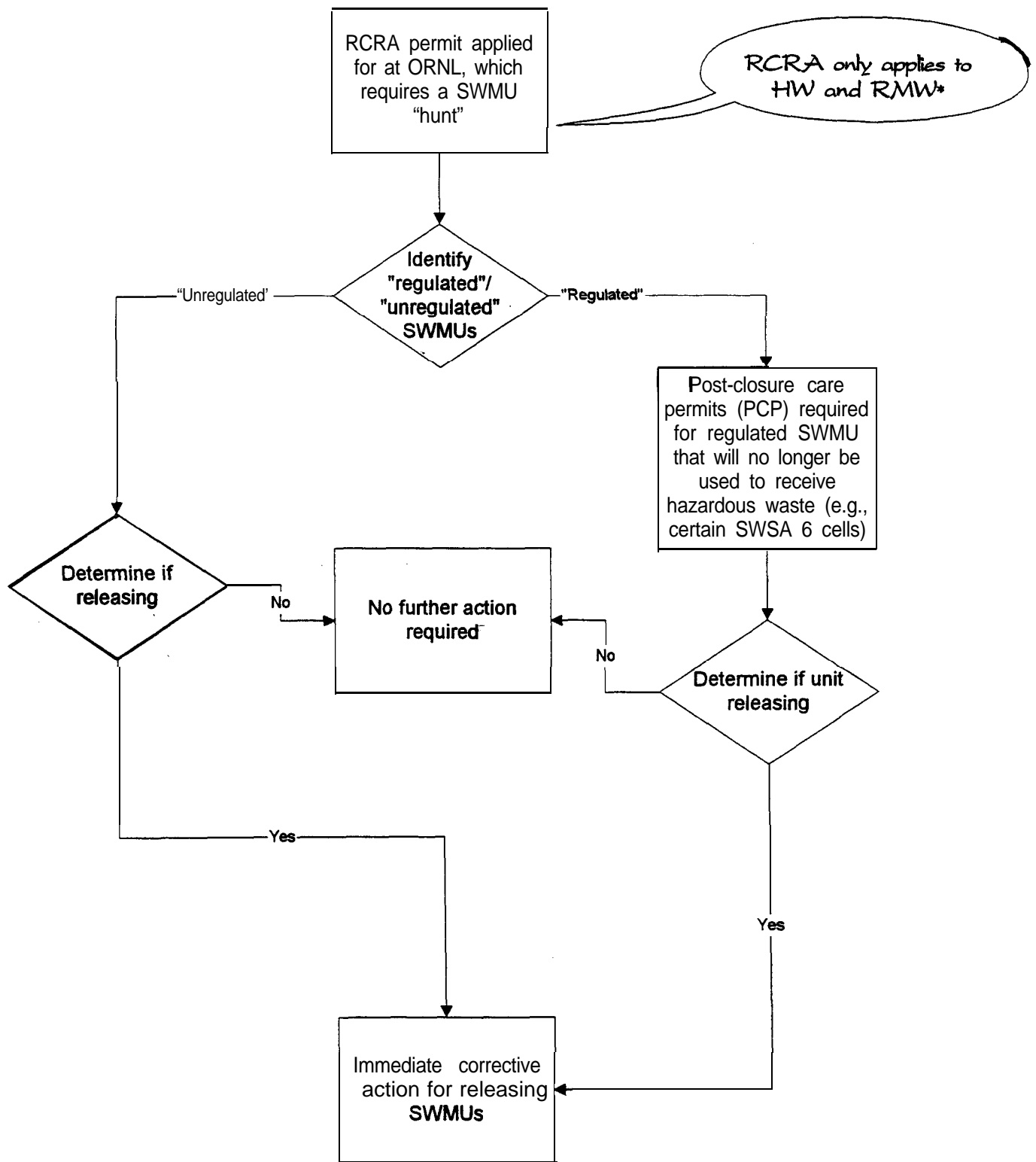
WAG 6 History



- ORNL applies for a RCRA permit, early 1980s.
- SWMU hunt required.
- SWMUs classified as (1) releasers or (2) nonreleasers.
- Post-closure care permit (PCP) required for all regulated HWMU (e.g., some cells in WAG 6).



Waste Area Grouping 6 And RCRA Process



*HW means hazardous waste. RMW means the hazardous waste component of radioactive mixed waste.



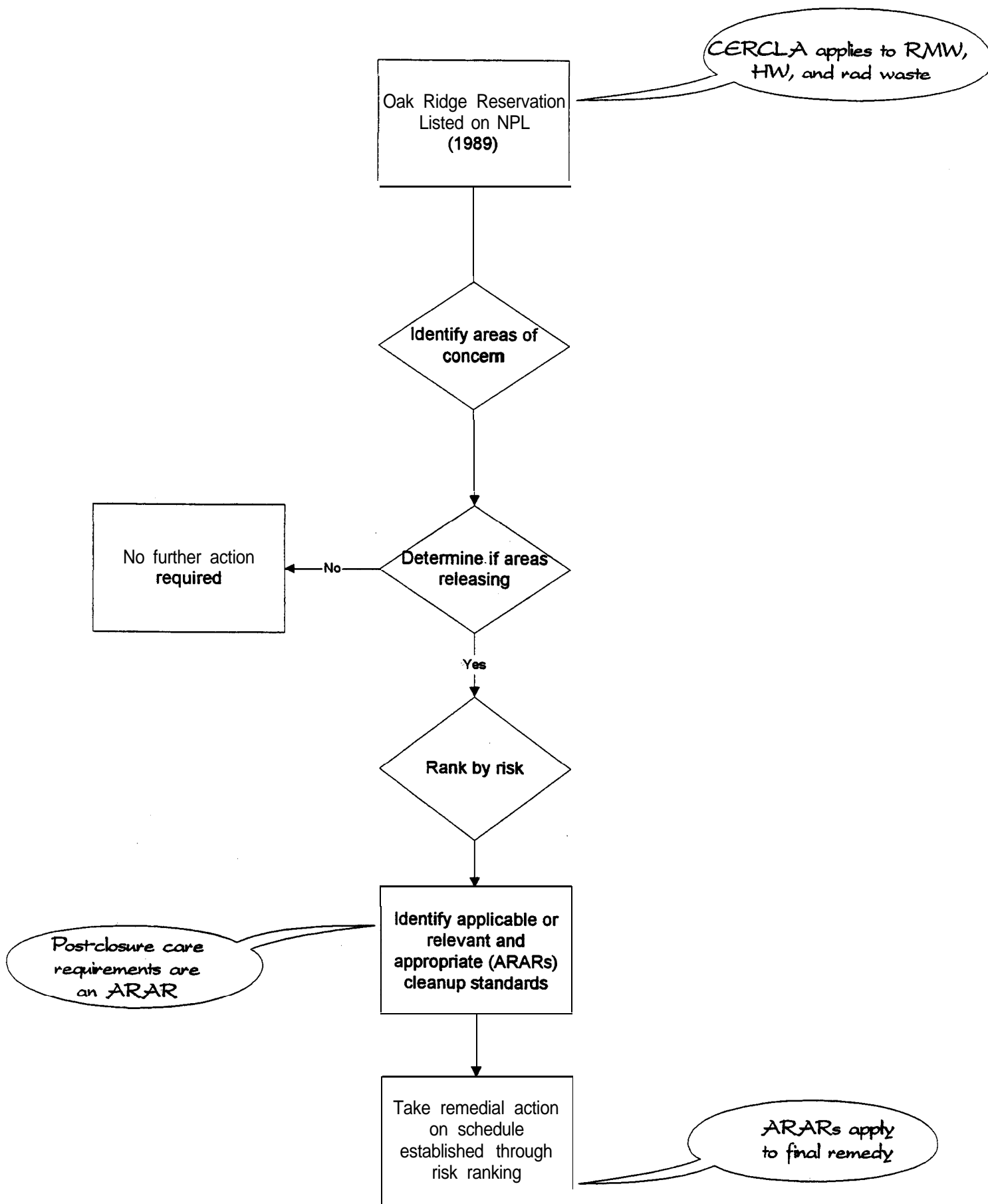
WAG 6 History (cont'd)



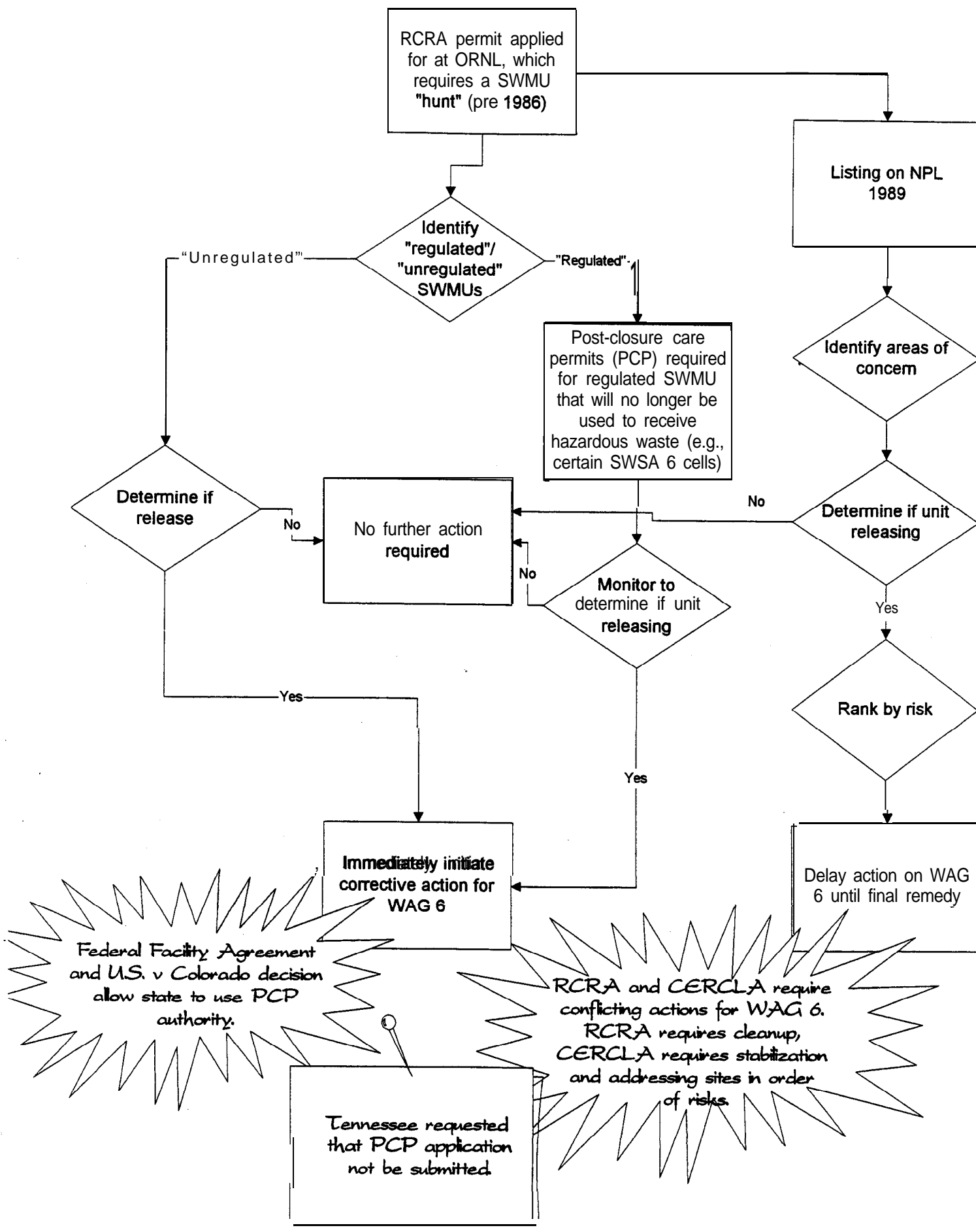
- PCP requires corrective action if specified limits exceeded.
- Limits likely to be specified are exceeded.



Waste Area Grouping 6 And CERCLA Process



Waste Area Grouping 6 And RCRA/CERCLA Conflict



Summary

- RCRA imposes requirements for cleanup of releases from regulated hazardous waste management units.
- RCRA also imposes corrective action requirements for unregulated units on a permitted facility.
- RCRA cleanup follows a similar procedural path as CERCLA, but decisions are documented in a permit.
- Thus, RCRA, CERCLA, and closure potentially apply to RMW cleanup.

Corrective Action Module Cross-Links

Module Page/Line	Cross-Link Language	Resource/Document
CA-3/Notes, Line 1	“RCRA Permit”	Types of RCRA Permits, DOE/EH-413/9715; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/permits.pdf
CA-3/Notes, Line 7	“SWMU”	RCRA Facility Assessments, DOE/EH-231-014/0794; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/assess.pdf
CA-4/Slide, Line 1	“Corrective Action”	RCRA Corrective Action Program Guide (Interim), DOE/EH-0323; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/program/progrm_all.pdf
CA-4/Notes, Line 2-3	"groundwater monitoring program"	Ground-Water Monitoring Under RCRA, DOE/EH-231-039/1193; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/monitor.pdf
CA-4/Notes, Line 8	"corrective action under 40 CFR 264.100"	RCRA Corrective Action Permit Requirements and Modifications under Subpart F Regulations, DOE/EH-231-022/0793; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/modif.pdf
CA-4/Notes, Line 12	“Unpermitted HWMU”	RCRA Ground Water Assessment Plans and Annual Ground Water Quality Assessment Reports at Interim Status Facilities, DOE/EH-413-069/0396; http://tis-nt.eh.doe.gov/oepa/guidance/gw/waterreg.pdf
CA-4/Notes, Line 17	"close the unit"	Closure of Hazardous and Mixed Waste Management Units at DOE Facilities, DOE/EGD(RCRA)-002/0690 [NOT available on the OEPA Website]
CA-4/Notes, Line 18	“decontaminated”	RCRA Clean Closure Equivalency Demonstrations, DOE/EH-231-010/1291; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/equivdem.pdf
CA-4/Notes, Line 19	"post-closure care permit"	RCRA Corrective Action and Closure, DOE/EH-231-051/0295; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/closur.pdf
CA-5/Notes, Line 1	“HSWA”	OEPA Environmental Law Summary: Resource Conservation and Recovery Act; http://tis-nt.eh.doe.gov/oepa/law_sum/RCRA.HTM
CA-5/Notes, Lines 4-5	“regulated and unregulated”	RCRA Corrective Action Definitions Under Subpart F and Proposed Subpart S, DOE/EH-231-044/0394; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/definit.pdf

CA-6/Slide, Line 3	"permit"	RCRA Permitting Guide for Hazardous and Radioactive Mixed Waste Management Facilities, DOE/EH(RCRA)9705; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/permit_a.pdf
CA-7/Notes, Line 3	"RCRA Facility Assessment (RFA)"	RCRA Facility Assessments, DOE/EH-231-014/0794; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/assess.pdf
CA-7/Notes, Line 9	"RCRA Facility Investigation (RFI)"	RCRA Facility Investigation, DOE/EH-231-046/1194; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/invest.pdf
CA-7/Notes, Line 11	"interim corrective measures"	RCRA Corrective Action Interim Measures Under the Proposed Subpart S Rule, DOE/EH-231-024/0793; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/interim.pdf
CA-7/Notes, Line 16	"RFI"	RCRA Facility Investigation, DOE/EH-231-046/1194; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/invest.pdf
CA-7/Notes, Line 20	"Corrective Measures Study"	RCRA Corrective Action Corrective Measure Study, DOE/EH-231-047/1194; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/study.pdf
CA-7/Notes, Line 21	"interim corrective measures"	RCRA Corrective Action Interim Measures Under the Proposed Subpart S Rule, DOE/EH-231-024/0793; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/interim.pdf
CA-8/Notes, Line 1	"Corrective Measures Study (CMS)"	RCRA Corrective Action Corrective Measure Study, DOE/EH-231-047/1194; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/study.pdf
CA-8/Notes, Line 5	"Corrective Measures Implementation (CMI)"	RCRA Corrective Action Corrective Measures Implementation, DOE/EH-231-048/1194; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/implemen.pdf
CA-9/Slide, Lines 1-2	"Corrective Action Components Similar to CERCLA"	A Comparison of the RCRA Corrective Action and CERCLA Remedial Action Processes, DOE/EH-0365; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/rcracomp.pdf
CA-9/Slide, Lines 4-5	"Preliminary Assessment"	Preliminary Assessments (PAs) Under CERCLA, DOE/EH-231-016/0593; http://tis-nt.eh.doe.gov/oepa/guidance/cercla/pa.pdf
CA-9/Slide, Line 6	"Site Investigation"	Site Inspections (SIs) Under CERCLA, DOE/EH-231-013/0693; http://tis-nt.eh.doe.gov/oepa/guidance/cercla/si.pdf
CA-9/Notes, Line 1	"correspondence between RCRA and CERCLA processes"	A Comparison of the RCRA Corrective Action and CERCLA Remedial Action Processes, DOE/EH-0365; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/rcracomp.pdf
CA-10/Notes, Line 1	"federal facility agreements"	Selected EM Cleanup and Compliance Agreements, http://www.em.doe.gov/ffaa/index.html

CA-12/Slide	“post-closure care permits (PCP)”	RCRA Post-Closure Permits, DOE/EH-231-021/0593 [NOT available on OEPA Website]
CA-15/Slide	“applicable or relevant and appropriate (ARARs)”	OEPA Focus Area ARAR Website; http://tis-nt.eh.doe.gov/oepa/arars/
CA-17/Notes, Line 6	"RFA"	RCRA Facility Assessments, DOE/EH-231-014/0794; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/assess.pdf
CA-17/Notes, Line 7	"RFI"	RCRA Facility Investigation, DOE/EH-231-046/1194; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/invest.pdf
CA-17/Notes, Line 8	"CMS"	RCRA Corrective Action Corrective Measure Study, DOE/EH-231-047/1194; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/study.pdf
CA-17/Notes, Line 9	"CMI"	RCRA Corrective Action Corrective Measures Implementation, DOE/EH-231-048/1194; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/implemen.pdf
CA-17/Notes, Line 16	“clean closure”	RCRA Clean Closure Equivalency Demonstrations, DOE/EH-231-010/1291; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/equivdem.pdf
CA-17/Notes, Line 16	“post-closure care permit”	RCRA Permitting Guide for Hazardous and Radioactive Mixed Waste Management Facilities, DOE/EH(RCRA)9705; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/permit_a.pdf
CA-17/Notes, Lines 17-18	“post-closure care period”	RCRA Corrective Action and Closure, DOE/EH-231-051/0295; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/closur.pdf